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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,823	05/03/2001	Francisco A. Uribe	S-94,613	7902

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EXAMINER

CREPEAU, JONATHAN

ART UNIT PAPER NUMBER

1746

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/848,823

Applicant(s)

URIBE ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action addresses claims 1-4. The claims are newly rejected under 35 USC §103, as necessitated by amendment. Accordingly, this action is made final.

### ***Claim Rejections - 35 USC § 103***

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al (JP 8-203537) in view of Eguchi et al (*Sci. and Tech. in Catalysis*, 1998).

Regarding claim 1, Uchida et al. teach a fuel cell comprising a polymer electrolyte membrane (2) having an electrocatalytic surface thereon in Figure 2. A porous anode backing comprising carbon particles (4; the white particles in Fig. 2(A)) abuts the electrolyte membrane at a first surface thereof. A CO oxidation catalyst layer (12) is present on the second surface of the anode backing (see claim 4 and Fig. 2 of the reference). Regarding claims 2 and 3, the electrocatalyst (5) is Pt or Pt/Ru alloy (see claim 3 and Example 1 of the reference). Regarding claim 1, in Example 1, the reference discloses that the electrocatalytic surface is formed by mixing the electrocatalyst with the polymer of the polymer electrolyte membrane, and then bonding it on an anode side of the membrane. Regarding claim 4, the layer of oxidation catalyst includes carbon (4), which is a hydrophobic material.

Uchida et al. do not expressly teach that the CO oxidation catalyst consists essentially of a single non-precious metal oxidation catalyst selected from the group consisting of Cu, Fe, Co, Tb, W, Mo, Sn, and oxides thereof, as recited in claim 1.

In the abstract, Eguchi et al. teach a copper catalyst supported on a mixed oxide which functions to remove CO from a hydrogen-rich gas stream via selective oxidation.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated by the disclosure of Eguchi et al. to use a catalyst consisting of copper in the CO oxidation catalyst layer of Uchida et al. In the abstract, Eguchi et al. teach that the copper catalyst “demonstrated excellent activity” for catalytic removal of CO by the water gas-shift reaction and selective oxidation. Accordingly, the artisan would be motivated to use a catalyst consisting of copper in the CO oxidation catalyst layer of Uchida et al. Furthermore, the disclosure of Eguchi et al. indicates that Cu is a suitable material for use as CO oxidation catalysts in polymer electrolyte fuel cell systems. The selection of a known material based on its suitability for its intended use has been held to be *prima facie* obvious. See MPEP §2144.07.

Regarding the recitation in claim 1 that the fuel cell is “usable in a reformat fuel stream containing diluted hydrogen fuel with CO as an impurity and with added air,” this limitation recites an intended use and does not have to be accorded patentable weight, pursuant to MPEP §2111.02. If a prior art structure is capable of performing the intended use as recited in the preamble, then it meets the claim. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

### ***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this

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Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a).


Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached at (571) 272-1302. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Jonathan Crepeau  
Patent Examiner  
Art Unit 1746  
February 26, 2004

  
BRUCE F. BELL  
PRIMARY EXAMINER  
GROUP 1746